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AMERICAN
GAS JOURNAL
Established 1859 Pioneer of the Gas Industry

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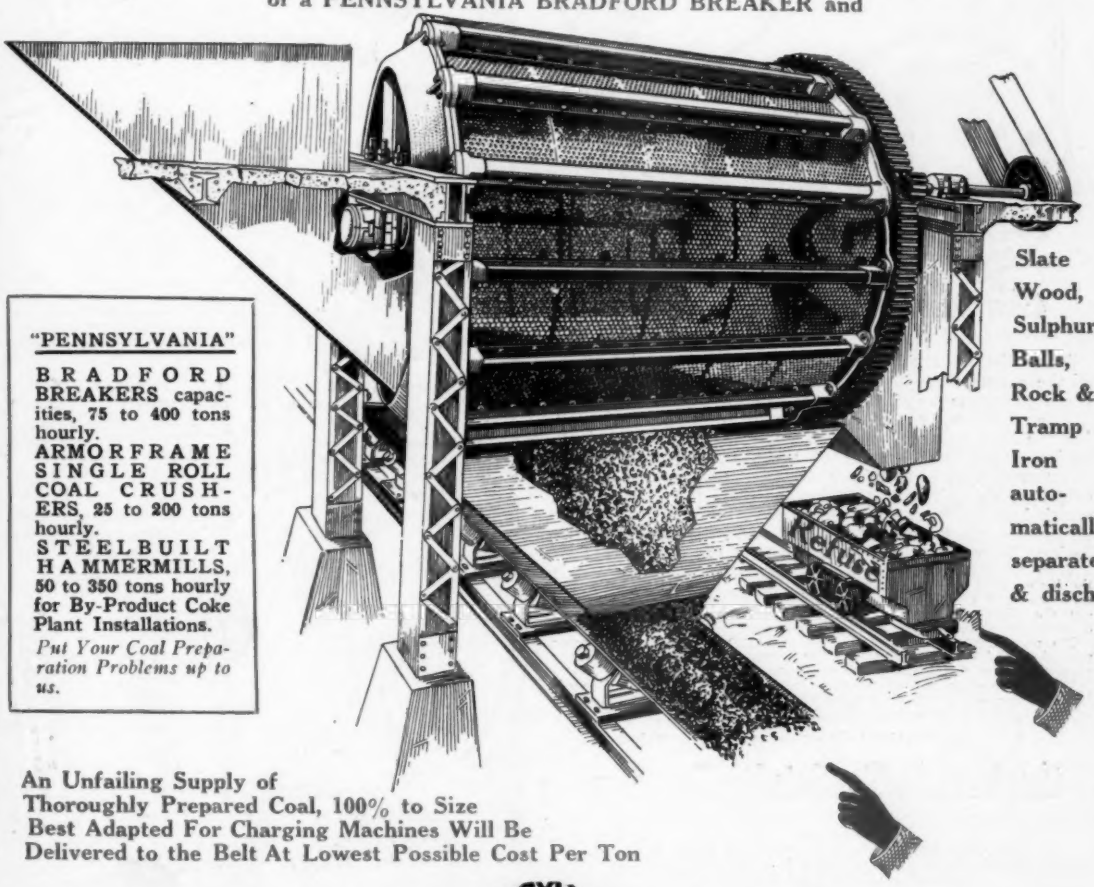
Put Your Entire R. O. M. Gas Coal Tonnage Into the Feed Hopper of a PENNSYLVANIA BRADFORD BREAKER and



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STEELBUILT CRUSHERS

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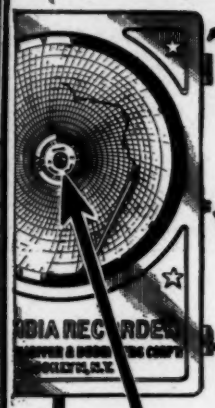
Two Big Exclusive Columbia Features!



Time Punch

Chart Button

The time punch insures manufacturers against waste, workmen against injustice. The operator simply pushes the button when making each inspection of the temperatures indicated by red line on the day-and-night chart and the exact time of inspection is recorded opposite temperature by a small hole punched in the time border of the chart.

Thus the manufacturer is assured of the maintenance of the exact temperature required to turn out products of the highest quality at the lowest cost, without spoilage.

The employee protects himself against unjust reprimand, for the time punch, operating exactly like a time clock, registers the very minute of his visit, showing beyond question that he watched the chart at stated intervals. His employer doesn't have to take his word for it—the little punch hole in the margin of the disc, made at the instant he presses the button, backs him up in his assertion that he kept his eye on the temperature.

With the Non-Removable Chart Button, a quarter turn draws in the little metal clips or fingers, shown in the illustration above, and off comes the chart. Another turn in the opposite direction pushes out the clips and they grip the new chart firmly. The utmost in convenience added to the utmost in efficiency.

No more lost chart buttons. No more loss of time and temper removing and replacing charts. The patented non-removable button puts an end to the "button nuisance" for good and all.

These are only a few of the many perfections in Columbia Recording Thermometers. Every feature that money, brains and ingenuity can devise has been embodied in this instrument.

Interesting Booklet H-56 on request. Write today.

American Schaeffer & Budenberg Corporation

Succeeding
THE SCHAEFFER & BUDENBERG MFG. CO.
AMERICAN STEAM GAUGE & VALVE MFG. CO.
HOHMANN-NELSON COMPANY

Brooklyn, N. Y.

*Boston Buffalo *Chicago Cleveland Detroit Tulsa
*Los Angeles *Pittsburgh Philadelphia Salt Lake City *Seattle
* Stocks carried at these branches.

Columbia
Recording Thermometers

American S & B Steam Gauge
Columbia Recording Gauge
American Water Relief and Pop Safety Valves
Honeco Temperature Controller
"Retorm" Dial Thermometer
American H_2O Grease Extracting Feed Water Filter
"Redline" Differential Draft Gauge
Columbia Gas Makers Gauge
Crescent Thermometer
S & B U Gauge
S & B Engine Register
American Gauge Tester
S & B Counter

AMERICAN
GAS JOURNAL

Vol. 121. No. 25 NEW YORK, NOVEMBER 22, 1924 Whole No. 3495

Selling Good Will at a Profit

Creating good will through sale of profitable merchandise

H. Ezmond Smith

WHERE a gas company is in operation, it serves almost the entire population of the community. The essential monopolistic character of the enterprise makes necessary a close supervision on the part of enforcement bodies in order that that measure of service which the public has a right to expect in return for the monopoly privilege which it has granted, will be available to all who desire gas service.

It might seem, then, that good-will of customers would be of little consequence to such an enterprise, that it mattered little whether people were in favor of the company or against it. Successful gas companies, however, have found that good-will is absolutely indispensable, if they are to operate at maximum efficiency and at the most reasonable cost, and this for four reasons:

1. It decreases the expense of operation through lessening the cost of unreasonable and unnecessary complaints.
2. The presence of an adequate good-will toward the company aids the sale of securities to customers. This needed financing taps a new bond and stock outlet which, in view of the lure of the tax-exempt security to men of large incomes, is a desirable opening for the financing of the utilities. Moreover, still greater interest in these companies is created through securing customers as stockholders and bondholders of the concern.
3. The expansion plans of utilities will be supported with greater enthusiasm if good-will exists than would be possible otherwise. Indeed, if ill-will replaces good-will, the expansion plans of utilities are usually rather costly if they are allowed to materialize at all.
4. Good-will is the measure of successful service to a community as well as a basis for such service. No utility which fails to secure the good-will of the customers it serves is following the right kind of service policy. A lack of good-will, then, is an admission of an inadequate policy toward consumers.

Good-Will Through Merchandising of Appliances

The Peoples Gas Stores, Inc., a subsidiary of The Peoples Gas Light & Coke Company, have found that, where reliable appliances are the rule, good-will toward the company is greatest. The user of an efficient appliance has no complaint to make regarding the faults of gas equipment. On the contrary, he is made a booster for the gas company because of the excellence of the gas service when the right type of appliance is in operation.

Appliances of superior quality, which have stood the rigid examination of the "testing department," not only operate effectively, but also have a longer service life than that of cheaper and less well-made units. The cost of using and of replacing these appliances, therefore, is less than in the case of cheaper equipment, for the number of years over which the cost of equipment is spread is increased with an increase in the service life of the appliance. Actually, then, the yearly cost of the best appliances, considering original cost, depreciation and up-keep is considerably less than that of the cheapest of gas consuming units.

Where appliances are satisfactory, customers are better satisfied with gas than would be the case if appliances do not work properly.

Sale of High-Grade Appliances by the Peoples Gas Stores, Inc.

"This company," says Mr. J. E. Davies, general manager of the Peoples Gas Stores, "has come to the conclusion that the most effective way of securing widespread distribution and use of the best types of appliances, is through the merchandising efforts of the gas company itself. To leave this important service to others in the hope of having it done effectively is not our idea of the duty of the

company to its customers. On the contrary, we feel that we would be negligent in our 'service to the customer' and good-will policies if we did not enter this important phase of auxiliary gas service."

Aiding Others to Secure Tested Appliances

To secure the widest possible distribution of tested appliances, the gas company should aid other gas appliance merchandisers in its district to secure tested appliances for sale. The testing laboratory, then, should be at the service of all who wish, sincerely, to determine the most effective appliances to place in the hands of the public.

Other concerns, however, will not be able to continue selling the best grade of appliances if the gas company cuts the price on these goods to a point at which no profit remains to the seller. The company might do this in order to appeal to the greatest number of customers on a price basis, and absorb its own loss through the sale of gas. Such a policy, however, defeats its own ends, for it makes the gas company practically the only dealer in high quality units, others having to resort to the price appeal as well, and in so doing they must resort to inferior goods in order to realize a profit on their sales in this field. Gas company sales of appliances, then, must rest on a quality rather than a price basis.

A still further aid to wide distribution in the large cities is the placing of tested appliances on consignment in as many hardware and other stores as possible. In this way, these logical gas appliance distributors can be induced to handle the best of appliances. Moreover, this arrangement enables these concerns to make a reasonable profit without the investment which would be necessary if these goods were purchased by them for resale.

Merchandising at a Profit

The appliance sales division can be operated at a profit if the same degree of skill and effort used by other successful merchandising concerns is availed of for this purpose. Inefficient sales methods will result in failure in this field as in others, and conversely effective selling methods will result in profit and good-will to the company. The mere entrance of the company into the appliance sales field, then, is no guarantee of the profitableness of the venture or of its creation of good-will toward the company. Vigorous merchandising along modern lines is the essential.

(Continued on page 1202)

TODO LO QUE UD. NECESITE HACER CON CALOR
LO PUEDE HACER MUCHO MEJOR CON GAS
Dice el Pueblo:
GAS, GAS y nada MAS
Translation of Above—
"Everything that it is necessary that you do with heat, Can be done very much better with Gas"
Left-Translation:—
"Everybody Says Gas, Gas Nothing else will do"
Right-Translation:
"The Cook Says:-
'Lawdy Missus A' Shuo do love to—
cook with Gas"
DICE LA COCINERA!
DA GUSTO COCINAR CON GAS

How They Advertise in Panama, Canal Zone

*The Basis of Compensation for Industrial Gas Engineers

A discussion of equitable plans of remuneration

J. P. Leinroth

THE past century is universally recognized as having been the supreme century of material and physical development. It has been characterized in the factory by the wonderful advances in labor saving machinery. Labor being usually cheap and plentiful, improvement in machinery seemed to be the logical means of cutting down costs and increasing production and it has only been within comparatively recent years that the problem of attaining these ends through increasing personnel efficiency has been given much thought. Frederick W. Taylor's work, some twenty years ago, marks a great step in this direction, and since the reading of his paper—"Shop Management"—the part the human being plays in production has received a great deal of attention. We are becoming more interested in men than machines.

Thus one of the problems that stands out today is that of getting the best out of the man by raising his personal efficiency, or, as Mr. Taylor puts it, "to secure the maximum prosperity for each employer coupled with the maximum prosperity of each employee."

The Efficiency of the Man

When this question was first studied, it was found that the average man was woefully inefficient and his production could be increased several fold by giving his case scientific study. We then entered the present age of scientific management. This development has been largely applied to the shop, but it is being given a great deal of thought in other lines of endeavor such as the sales field. There have been a great number of volumes written during recent years on human efficiency and "applied psychology," which tend to show us how to eliminate the enormous losses which are occurring every day through our acts. Such topics as the proper selection of the man, his training, his incentive, and the planning of his movements, are today being studied carefully. Some sales managers have gone so far as to standardize the salesman's method of approach, his introductory talk, etc., following the methods of standardization in the shop. We do not agree, perhaps, with all the various methods used by the disciples of this new trend of thought, but no one who has given any of his time to the study of scientific management can doubt that wonderful results can be obtained from its proper application.

*Delivered at the meeting of the Industrial Gas Section, A. G. A., Wednesday afternoon, October 15, 1924.

Increasing the Efficiency of Gas Engineers

What are we in the industrial end of the gas industry doing to increase the efficiency of our industrial gas engineers? This is the question I would like to bring up through the medium of this paper. Have we given this phase of our business the thought it deserves? I venture the opinion that the advances that have been made in the industrial gas field have been largely on the material and physical side, and no one will argue that we have not made great advances there. The efficiency of the various applications of gas have been increased many fold in a short period of years; through intensive study and research we are building gas-burning appliances today which show a remarkable advance over the appliances of even ten years ago. We are, day by day, substituting accurate data for "rule of thumb." We are analyzing our jobs. We are determining accurately the cost of labor, space, depreciation, rejects, etc., which enter into the heat process, as well as the actual cost of the fuel, and the manufacturer today is realizing more than ever before that high fuel costs are not always synonymous with high unit products costs just as he is realizing that high wages do not always mean high cost of production, and yet, we have indeed but scratched the surface in the development of gas-burning appliances and applications. The great fields which lie before us will call for more and more of this work and it will be carried on, on a far greater scale than ever before.

Our job is to sell gas for industrial purposes. To do this we must have gas backed by proper service, properly designed appliances, and men who can go out and sell our product.

Properly Trained Men Necessary

If we are to get the industrial load we must have properly trained men of the right type, and it necessarily follows that to obtain them and hold them in our organizations we must give them a compensation commensurate with the kind of men we require. Selling industrial gas calls for real sales ability and anyone who has tried to analyze the qualities that go to make up a good industrial man will agree with me, that he should be of the highest type of sales engineer. We are selling a high class product in competition with cheaper fuels and to sell it requires the using of first-class methods.

The proper selection of these men and their train-

(Continued on page 1212)

Unusual Job of Lowering Large Gas Mains

H. B. Andersen

Assistant Engineer of Distribution, Philadelphia Gas Works

DUE to a change by the city authorities in the grade of two intersecting streets, for a distance of several hundred feet all four ways from the streets' intersection, the Germantown-Frankford District of the Philadelphia Gas Works found it necessary this fall to lower two large mains under unusually difficult conditions, and has completed the work successfully and without accident.

The Problem

On the first street lay a 48-inch main, which was connected at the intersection with a 30-inch main extending both ways. Thus, these mains form a huge "T" and we will be helped to visualize the conditions if we bear in mind that each of the "arms" of the "T" was about 400 feet and the "trunk" of the tee about 150 feet long. Imagine again that the ends of the "T" were at the proper level, but that from each of these three ends toward the intersection, the pipe needed a gradual lowering, which reached its maximum—about 12 feet—at the intersection.

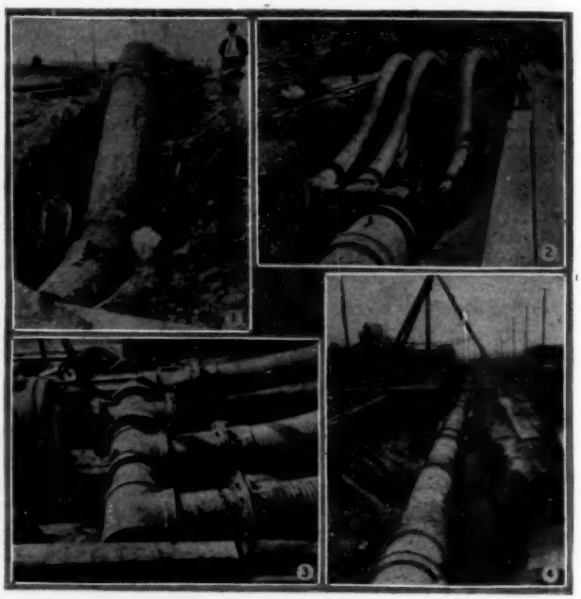
Conditions That Had to Be Overcome

Figure 1, of the accompanying illustration, shows one of the 30-inch arms adjacent to the intersection, before the lowering work was started. The difference in height between the main in the ditch and the one above the ground level was about 10 feet. While the average lowering job is a slow one and requires close attention to insure against accident, this job was unusually difficult to plan and execute, because of the following conditions: First, the 30-inch joints were of cement, and, therefore, inflexible without partial removal of the cement; second, the main was supported on heavy concrete piers, which had been built for permanence; third, the two 30-inch mains (the arms of the "T") were above the ground level (as Figure 1 shows); and fourth, the most complicating, the 30-inch pipes had to be lowered near the intersection for 12 feet, but the 49-inch pipe, at the same point, needed to go down but two feet. All three mains were important feeders. The 48-inch could not be shut down at all; one of the 30-inch mains could be shut down from 7 p. m. to 6 a. m., the other from 7 p. m. to 4 p. m., but any shut-down between 7 a. m. and 7 p. m. would have resulted in an upset of the distribution "pressure" balance that would have been most undesirable.

These conditions demanded not only that the 30-inch mains be lowered at the intersection to the level of the 48-inch main, so that from that point on, the lowering of the two for the final two feet could proceed together, but also that the duration of gas shut off be not more than eleven hours. Consequently, the job was to devise a way of cutting out the pipe shown on the 45 degree angle in Figure 1, and between the upper and lower ends thus created, to place a connection which would be strong, large enough to carry the "load" (of gas) and flexible enough to permit the upper end to drop 10 feet. Evidently, this was no job for a cast iron gas pipe. We finally decided that three 12-inch pipes about 20 feet long would carry the "load" and that the flexibility could be obtained by using spirally wound metallic tubing.

How It Was Done

After the proper preliminary work at 7 p. m., we shut off one of the 30-inch mains just beyond the



48-inch main, cut out the pipe between and including the 45 degree elbows shown in Figure 1, installed the flexible tubing connections shown in Figure 2 to replace the pipe cut out, and turned on the gas at 4 a. m. the following day. This photograph (Figure 2) was taken about 11 a. m. of this day, after the lowering of the main had been over half completed. This latter work proceeded rapidly and it had been completed, the flexible connections removed, and the 30-inch permanent main replaced and in service by 11 a. m. of the third day, without any more work at night. Our experience on this half of the work was such as to give us the knowledge and the confidence necessary to tackle, without using the flexible connections, the second half, which was similar to the first, except that the lowering was for a greater vertical distance. The connections, of course, were at hand and ready for insertion had our calculations gone wrong of the time necessary to do the various parts of the job. The second half was completed between 7 p. m. and 6 a. m. (eleven hours).

(Continued on page 1200)

GAS MERCHANDISING

Domestic – Industrial

Capturing the Customer in Land of Cotton

Advertising to overcome the customer complex

William H. Matlack

"ROBINSON CRUSOE did not feel bound to conclude, from a single human footprint that he saw in the sand, that the maker of the impression had only one leg"; Huxley.

Down in Georgia the gas company located at Augusta has always done more or less advertising and, like all advertising, it has been productive, but just how productive no one was ever able to say. With this knowledge in mind, as well as a knowledge of its customers, the company decided that, to deliver an advertising message to folks in general in all sections of the city and to secure the maximum customer reaction from the advertising, it was well to change the order of things a bit.

Size of Space

First of all, the size of the newspaper space used was too small (5" do. col.) and would have to be increased, and, second, that the advertisements to be used in one paper should be entirely different from those used in the other, in order to make the message general. Both papers have about the same circulation as to number, yet there was no data as to the character of readers, which, after all, is what counts in advertising, and so far as could be learned from local sources, there seemed but very little choice as to which newspaper should carry the company's message to the classes and which one should carry it to the masses. However, after giving the matter due consideration, based on the knowledge that the morning paper was "the South's oldest newspaper," and that a certain paper published in the Capital of the 49th State made great claim for high ranking mass class circulation and women readers*, it was decided to make the appeal to that class of circulation through the morning newspaper and to appeal to the masses through the columns of the evening newspaper.

And It Went Over

The sale was successful in many ways; first, in the volume of sales made, the new customers secured and the general character of the sales, all of which ranked high. Aside from this, the contention of the company's advertising manager, that the customer complex may be solved best when the customer is given due consideration and advertising is directed to both the so-called high-ranking-mass-classes and to the masses in different forms, was proven.

The copies of the advertisements reproduced here

ANNOUNCING OUR OCTOBER SALE

DURING the first eighteen days of October we are going to offer as an inducement to the Home-Managers of Augusta who have not modernized their kitchens or who do not know the joy of real HOT WATER SERVICE an opportunity to also enhance the dining room, or further add to the utility of her kitchen equipment.

FROM October first to eighteenth inclusive we will give everyone who purchases a GAS RANGE or GAS WATER HEATER, selling for less than $100.00, her choice of a 31 piece, first class, Limoges China Breakfast Set or a six piece Aluminum Cooking Set, both of which are listed below in detail.

TO any customer purchasing a CHAMBERS FIRELESS GAS RANGE, the range that cooks with gas turned off and thus cuts your gas bill in half, or a RUUD Automatic or a Storage Type Gas Water Heater, to provide HOT WATER SERVICE at any hour of the day or night—we will present a 42 piece, first quality, Limoges China Dinner Set FREE OF COST. See detailed description below.

THIS is an opportunity that rarely comes your way and you should take advantage of it immediately.

REMEMBER all GAS APPLIANCES sold by this company are built in accordance with the specifications of The American Gas Association and have passed the most severe tests of well known testing laboratories.

LOOK for the Good House Keeping star of approval on The ORIOLE and Chambers Fireless Gas Range!

DINNER SET
42 Piece Limoges China
6—7½ Plates
6—Cups and Saucers
6—Dinner Plates
1—Vegetable Dish, Round
1—Meat Platter
1—Pickle Plate
6—Individual Butter
1—Covered Sugar
1—Cream
6—Fruit Plates

ALUMINUM COOKING SET
1 No. 1004 medium 4qt. Enterprise Roaster
1 No. 1845 Colonial 4 qt. Cov. Convex Kettle
1 No. 1009 3 qt. Lipped Sauce Pan
1 No. 0010 1½ qt. Colonial Rice Boiler
1 No. 0060 6 qt. Preserving Kettle
1 No. 6077H 8 Cup Percolator.

BREAKFAST SET
31 Piece Limoges China
6—Individual Splitos
6—Individual Fruits Mass. 5-inch
1—Meat Platter No. 10½-inch
6—Cups
6—Saucers
6—Breakfast Plates No. 8-inch.

REMEMBER you may take your choice of either the Six Piece Aluminum Cooking Set or the 31 Piece Limoges China Breakfast Set with the purchase of any GAS RANGE OR WATER HEATER selling for under $100. And your choice of either of the three sets if you purchase a CHAMBERS FIRELESS GAS RANGE or a RUUD Automatic or Storage Type Gas Water Heater.

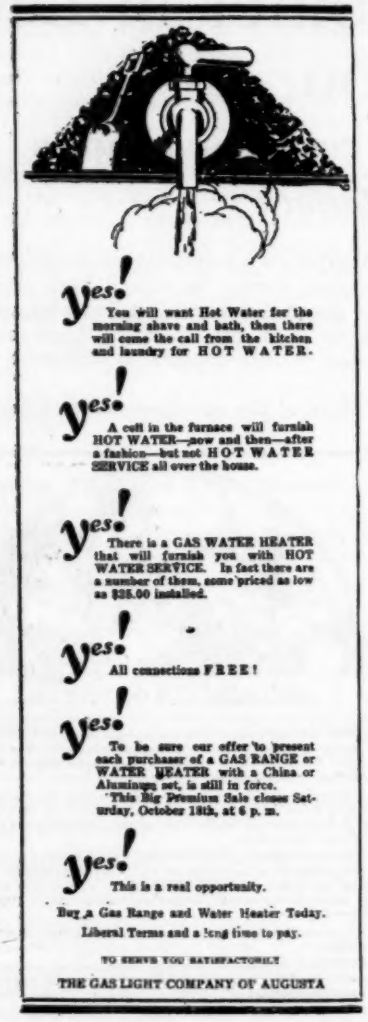
No Credit Will Be Given On Old Ranges During This Sale

ALL SETS ON DISPLAY AT OUR STORE—SEE THEM TOMORROW

To Serve You Satisfactorily

THE GAS LIGHT COMPANY OF AUGUSTA

are those that were intended to appeal to the masses, while other advertising copy was written especially for the higher ranking classes. The line is not drawn, however, when something is given away. Quite to the contrary (we believe the word FREE is one of the foremost drawing cards, in any clime, to any class). It is our idea that in order to get the idea over through advertising it is sometimes necessary to disguise it or tone it down, as it were.


yes!
You will want Hot Water for the morning shave and bath, then there will come the call from the kitchen and laundry for HOT WATER.
yes!
A coil in the furnace will furnish HOT WATER—now and then—after a fashion—but not HOT WATER SERVICE all over the house.
yes!
There is a GAS WATER HEATER that will furnish you with HOT WATER SERVICE. In fact there are a number of them, some priced as low as $35.00 installed.
yes!
All connections FREE!
yes!
To be sure our offer to present each purchaser of a GAS RANGE or WATER HEATER with a China or Aluminum set, is still in force.
This Big Premium Sale closes Saturday, October 18th, at 6 p. m.
yes!
This is a real opportunity.
Buy a Gas Range and Water Heater Today.
Liberal Terms and a long time to pay.
TO SERVE YOU SATISFACTORILY
THE GAS LIGHT COMPANY OF AUGUSTA

The Free Sign

This particular sale, however, proved conclusively that one way to secure new business is to put up the FREE sign, but do not forget that the big idea back of the Free premium sale or any other sale is to get your message to all the people all the time and cause them to buy your merchandise. One way to do that is to write copy that is concise, to the point, in such a manner as to be understood and make an appeal to all. Human nature is the same the world over and every gas consumer likes to secure a premium Free, yet you have to disguise your appeal sometimes for some folks. Try it!

The Gas Light Company's Premium Sale followed just five days after the most successful sale ever held in the history of the company and it was very gratifying to the sales manager-ad-man in that advertising again has scored "so big," and that the gas man who, like Robinson Crusoe, does not take too much for granted from what has gone before, is pretty apt to find that selling (printed salesmanship as well as oral) will sell.

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*Author's Note: It is claimed that women purchase 75 per cent of all merchandise in America, and it is our opinion that a much larger per cent purchase the gas ranges and water heaters for the home. The home manager at least is the one who should make up the specifications for home appliances and kitchen equipment.

LOWERING GAS MAIN

(Continued from page 1198)

Figure 3 shows a "close-up" of the "header" used at either end of the flexible tubes, and the connection of the "header" to the cast iron main. The screw joints in the header were made up loosely enough for turning with chain tongs as the lowering process flexed the tubing into an arc of a circle of decreasing diameter. The nipple entering the cap on the end of the 30-inch pipe had a long thread, and was held in place, inside and out, by a lock ring. Figure 4 shows the main in its final position and should be viewed with Figure 1, which shows conditions before the work was started.

The existence of 30-inch cement joints has been mentioned as an obstacle to easy lowering. To overcome this, every other joint was cut out almost completely to permit lowering to proceed, and all the others were cut out sufficiently to permit the final installation of a lead wool joint. The other unusual condition, viz., that most of the pipe to be lowered was at the start some five or six feet above the ground, was met by excavating under the main, but leaving underneath it large piers of earth fairly close together, then gradually picking off the tops of these piers and allowing the main to settle without any controlling force from above. This method proved entirely satisfactory and cost much less than would have that of building piers alongside of and above the main, and of hanging the main from these piers by means of threaded hangers and supporting cables.

The work at night was illuminated by banks of electric lamps in special reflectors, supported on portable standards, and fed by the battery of one of our electric trucks.

INDUSTRIAL GAS LESSONS

IF IT'S DONE WITH HEAT — YOU CAN DO IT BETTER WITH GAS

Lesson No. 46

Change of State

Change in State Induced by Heat

It will be remembered that the various effects of heat were enumerated in one of the former Industrial Gas Lessons. We have just finished discussing the important change that heat induces in all substances by increasing or decreasing their dimensions. This change takes place without the substance undergoing any alteration in state. That is, we have been considering this change taking place while the solid remained a solid, the liquid a liquid and the gas a gas.

It is, however, common knowledge that when sufficient heat is applied to a solid or a liquid or when a sufficient amount of heat is removed from a liquid or a gas, it is possible to change the state of the substance. That is, the solid may be converted into a liquid by heating and the liquid into a gas, and vice versa, the gas may be changed into a liquid and the liquid into a solid by the reverse process, cooling.

Specific Heat

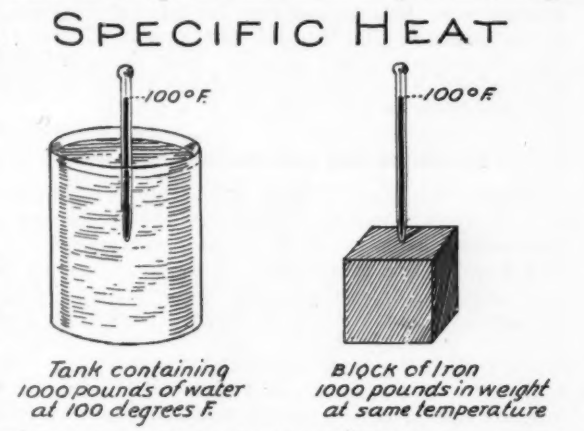
Before, however, proceeding to the discussion of the change in state that is produced by heating a substance, it is first necessary to consider the variation in the manner in which the temperature of a body rises as it is subjected to heat. It has previously been shown that substances possess different capacities for conducting heat. Thus, in a cold room a piece of iron feels much colder to the touch than a piece of woolen cloth, although both are at the same temperature, which is the temperature of the air in the room. This is simply due to the fact that the metal, iron, conducts the heat away from the hand more rapidly than the textile, wool. Each substances possesses its own inherent rate of heat conduction.

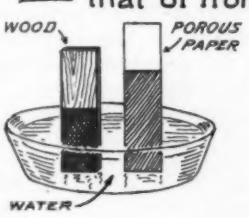
The same thing is true of the temperature rise or fall that is produced in a substance by the addition to or subtraction of heat from it. In each case the temperature of the substance will change to a different degree than in any other substance. This property of substance is known as their specific heat.

Specific heat is not an absolute unit, but a comparative unit. In other words, when we say that the specific heat of a substance is 0.5, it means that the property of the substance to undergo a certain temperature rise when a certain definite amount of heat is added to it is compared with the same change that takes place when the same amount of heat is added to a unit weight of water. In other words, the specific heat of a substance may be defined as the ratio of the number of heat units that are required to raise the temperature of unit weight of the same one degree to that required to raise a unit weight of water or any other substance that may be selected as a standard, one degree of temperature, generally from 60 to 61 degrees F.

Thermal Capacity and Specific Heat

In order better to understand just what the significance of specific heat is, it may be advantage-


SPECIFIC HEAT
100° F.
100° F.
Tank containing 1000 pounds of water at 100 degrees F.
BLOCK of Iron 1000 pounds in weight at same temperature
There is more Heat in Water than in Iron because the Specific Heat of Water is Greater than that of Iron.



Specific Heat defines a substance in respect to its behavior with heat much like absorptive capacity defines the ability of a substance to absorb water or other liquid. Bodies — absorb heat with greater or lesser ease just like they absorb water more or less easily.

ously compared with a certain property that porous substances have for absorbing liquids. A blotter, when placed in a dish of water, will absorb some of the water, but no more than a certain maximom amount. A piece of wood placed in the same dish of water will also absorb a definite quantity of water, but here again no more than a certain maximum amount. Porous stone, as, for example, sandstone,

will act in the same manner. Not only that, but the rate of absorption of the liquid varies in accordance with the nature of the absorbent and of the liquid itself.

The capacity of substances for absorbing heat is something like the capacity of different materials for absorbing liquids, as explained above. Hence the thermal capacity of a substance refers to the amount of heat, that is, absolute units of heat, that are required to produce a certain temperature change in that substance. To evaluate thermal capacity in clearly defined terms, it is stated to be the number of British Thermal Units that are required to raise the temperature of the body one degree Fahrenheit, or vice versa, the number of British Thermal Units that are evolved by the body in cooling off one degree Fahrenheit.

SELLING GOOD WILL AT A PROFIT

(Continued from page 1196)

Modern merchandising demands the use of a carefully planned campaign. This is especially necessary in the gas appliance field, for the seasonal factor must be studied and developed. Moreover, only through long-run planning may the continued growth of this branch of the business attain its highest usefulness to the company as a whole.

Merchandising and Seasonal Demand

Careful planning, if done effectively, will enable this division to make the sale of gas appliances a year round proposition rather than a seasonal one. The Peoples Gas Stores have found, as the result of three years of careful planning and effective selling methods, that practically all kitchen equipment and supplies, including kitchen cabinets and refrigerators, may be sold throughout the entire year. Of course, the mid-summer sales of appliances in a city where building activities are confined to the warm weather months will show a decided peak, but, with a determined effort, backed by effective advertising and proper incentives to salesmen, the valley months can be raised until this peak will be less conspicuous. The experience of this company, then, is proof that modern sales methods in the appliance division can overcome the seasonableness of these goods.

Training of salesmen and incentive methods of payment for results attained are as necessary in the merchandising of appliances as in any other business. Careful attention to this matter will more than pay for the effort expended.

Value of House-to-House Canvass

A house-to-house sales canvass as a regular part of the merchandising program is a valuable aid to success in the sale of gas appliances. Such a plan keeps the salesman on the job continually, makes him cultivate his territory more intensively, provides for the creation of good-will because the salesman knows he must continue to make his commissions from his territory, and provides for a uniform coverage of the entire sales territory. In addition, this method provides a means of checking up on the adequacy of gas service throughout the territory through having salesmen keep in touch with this phase of their work in their daily contact with gas consumers.

Window and Store Display

Modern merchandising of almost any kind can be carried on more effectively with the aid of window and store display. Such display, however, must be as well done as the advertising if it is to be the aid to business development which it may rightfully become. If careful preparation for display is made, if the display force is well chosen and fully trained to do this special work, and if the display effort is given the support of the entire organization, it can be, and will be, an effective aid to the development of good-will through the merchandising of appliances.

Advertising Must Be Well Done

The advertising efforts of an efficient appliance sales division must be well done. In order to be effective, it must be well planned, well timed and well suited to the community to which it appeals. Advertising of this type will, in itself, create a favorable impression and therefore create good-will toward the company.

Employee Co-operation

No sales effort of a utility is as successful as it might become, if it does not enlist the active support of the entire organization. Such participation has been secured in The Peoples Gas Light & Coke Company through giving commissions to employees who suggest the names of prospects who are sold appliances in response to such suggestion. Still further interest is created through special advertising to employees, aimed to secure their co-operation, and through offers of special prizes for the largest number of live prospects turned in by any one employee.

Sale of Appliances a Means—Not an End

The sale of appliances must be kept secondary in importance to the sale of gas. The aim in entering the appliance field should be the creation of good-will toward the gas company, and this aim should be kept before the appliance division at all times. Appliance sales, then, are a means—not an end.

Merchandising of appliances, then, may be done so effectively that two desired results may be obtained. In the first place, it can be relied on to create good-will toward the company. Secondly, it can be made a profitable enterprise, if done effectively. Both of these results have been attained by the Peoples Gas Stores, proving the contention that "Selling Good-Will at a Profit" is entirely feasible.

As The Journal Views It

CREATING THE OPPORTUNITY

When opportunity knocks on the door, even though it be in the cold of the early morning, the sleeper must awake and get out of bed to open it, no matter how hard it may be to leave his warm covers. For opportunity has the bad habit of not returning when once admittance is denied it.

But what to do when opportunity does not come along. Shall we wait indefinitely for it? The resourceful man says "no," and goes about creating opportunity as well as he can.

This is what the industrial man has had to do in developing the industrial gas field. True, there are many opportunities for gas as an industrial fuel, and these opportunities will come and knock at the door, and when they do should be seized immediately. Gas men should tackle them with a strangle hold, for if they do not, these opportunities will not come again.

But the gas industry has had to create opportunities for itself in the industrial gas field, and will continue to have to do so right straight along. For it must be remembered that gas in most cases will be seeking to replace a cheaper fuel. This should not by any means cause any apprehension on the part of the gas men, but he must be able to do something to compensate for the increased cost. If he will look around him he will find plenty of opportunity.

The whole situation is controlled by a condition which has existed in this country and elsewhere, for that matter, ever since fuel was first used. What we refer to is nothing more than the fact that, with the great supplies of fuel available in most countries, the use of the same has been fraught with great inefficiency. No matter how highly developed a particular manufacturing process may be, no matter how ample the efficiencies are that may have been obtained, no matter where the plant may be located, it is almost axiomatic that from the standpoint of fuel economy, the efficiency will be found to be extremely bad.

This is due principally to the fact that the manufacturer has had to pay but little for his fuel in comparison with other materials. Therefore, when gas enters the industrial field and makes its claim to be a better fuel than any of those that have been used up to the present time, it must be prepared as well to effect economy in the use of the fuel. And under most circumstances it will find no difficulty in doing so.

The gas man must study the situation from this angle, particularly, and he will generally find that there are many improvements to be made in the process. He will generally discover that great quantities of heat are wasted in heating up useless weights of metal. He will find that only a very small percentage of the heat is actually used in the process, the greater part of it going up the stack. He will find all sorts of conditions, practically of a mechanical nature, that hinder the obtaining of good fuel economically, and it is up to him, if he wants to supplant the other fuels, to perfect the heating operations so that greater efficiency is attained.

And he must do so, as his fuel is going to be more expensive than the one that he replaces, and if it is used under the same conditions, and in the same inefficient apparatus that has been used heretofore, the cost will be so great that gas will not be able to stand up against it.

It is really an interesting situation and one full of importance to all concerned. When gas becomes the universal fuel, real fuel economy will be attained, and the chances are that many manufacturers who pay more for their gas than they did for the coal they use will be able to derive real benefits from the gaseous fuel which will more than offset additional cost to them.

This is the opportunity of the gas man and the gas industry. It is knocking at its door constantly, and it is there waiting to be seized. Furthermore, in the absence of opportunity, this is the way in which he can create it for himself. He has a fuel, which possesses such important advantages, which has so great a potential force that it can overcome almost any adverse condition, and, in addition thereto, he has a fuel which shows him how to create opportunities, and, in doing so, benefit all concerned.

GAS WRINKLES

Paraffine Seals for Purifying Boxes

F. H. Shelton

IN many gas works, more especially of the smaller size, much annoyance is experienced from the frequent blowing out of the water in the seals of the purifying boxes.

This may be due to a larger volume of gas being forced through the boxes than they should handle, to a stoppage in the pipes, or to an irregular and intermittent flow of gas, such as occurs when a water-gas plant is connected directly to the boxes, without the intervention of a relief holder. In any case the result is a high pressure, which blowing the water out of the seals, is not only a nuisance, but a loss.

Until this trouble can, by larger boxes or otherwise, be permanently cured, the time-honored practice has been to tightly pack and puddle clay in the purifier's cups. Excepting the antiquity of this custom, there is but little to recommend it, for it is dirty and laborious in the extreme.

Various devices of thick-plaited gummy ropes of straw, etc., into which the bottom of the purifier cover may imbed, have also been tried, but with indifferent success.

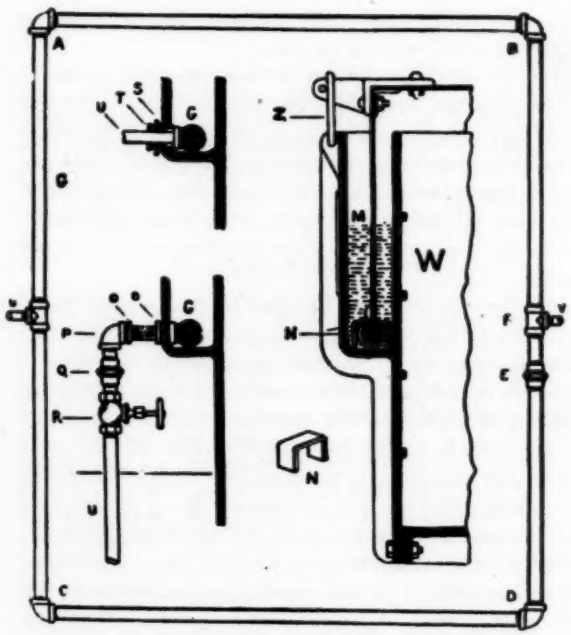
Paraffine wax is one of the final products in the distillation of petroleum. It can be bought by the barrel, for a few cents per pound, at most oil refineries. When cold it is hard like a candle, but at a temperature of 110 degrees it melts and becomes as liquid as water. It will readily be seen that if this substance be substituted for the usual water in purifier seals, when in its normal cold condition, it will hold the purifier cover so firmly in place that no gas pressure short of an explosion can lift it, while if warmed into a liquid the cover may be lifted as readily as if water were in reality in the seals.

The illustration shows the detail of the practical working and fitting up of a purifier seal, W, for the device.

Description of the Apparatus

Steam heat is sufficient for the melting, and all that is required is to make a rectangle, A, B, C, D, of steam pipe G, and so place it in the bottom of the cups M that the heat will be quickly radiated through the wax. As radiating surface is what is desired, good-sized pipe should be used, 1¼-inch. The connecting pipe U through side of the cup may be ¾-inch or 1-inch. This connection may be made in several ways; two we illustrate. In the lower sketch shown, a long-threaded nipple is used, inserted from the outside into the tee G, through a hole drilled in the side of the box of just sufficient size and made tight by the lock nuts, O, O.

A rather better way, however, is to make a stuffing box by a 2x1½-inch bushing S, screwed into a 2-inch tapped hole in the box, with a 1½x1-inch bushing tee (drilled to easily slide over the pipe U), screwed into it as a gland, as shown in the upper sketch.



The steam supply pipe, U, should be fitted with union Q and valve R, as shown, with the latter turned in towards the box out of the way of wheelbarrows, etc.

As the rectangle of pipe in the cup forms a dead end a cock should be provided, say, at V, by which to blow out condensation.

The cover of the box will, of course, rest direct on top of the steam pipe A, B, C, D. If this be found not to give a good bearing, small irons bent, as at N, should be put over the pipe to give an even resting place. In any case as the cover is blocked up by the steam pipe, it will be found necessary to lengthen the links or other device at Z, used for clamping down the cover.

Catechism of Central Station Gas Engineering in the United States

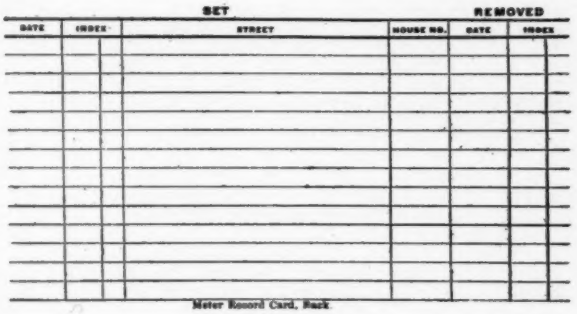
Installment No. 46.

(Continued from last week)

The meters as purchased contain the maker's name and a serial number of his own. Formerly, this maker's name and number were used to designate the meter in the records of a company, but experience has shown the wisdom of assigning to each meter, as bought, a number known as a "company's number," entirely distinct from the maker's number. The company's number is generlly on a metal badge, which is soldered to the front of the meter-case on one side of the dial. One of its advantages, especially in a small company, over the maker's number in identifying a meter is enabling numbers of four or not more than five figures to be used in place of the six or seven figures of the maker's series, and the ability to omit altogether the name of the maker on all the various cards on which the meter will figure in its life. Again, in repair wor, it is more convenient not to be obliged to replace on any meter the same front (containing the maker's name and number) that may have been taken off, and the use of the company's number (which is soldered to the fixed portion of the case), makes the replacing of the same front a matter of indifference.

The Meter Record Card

At the time the meter is bought an dbadged, a card known as a "meter record" card, and printed like the sample shown, is headed with the number of the meter and filed away in numerical order with other cards of the same kind. Under the conditions obtaining in small companies, all of whose meter setting is done from one shop and whose meter repair work is in the same building as the shop, or in a building adjoining, the presence in the meter record file of a numbered card, filled with "Size," "Kind," "Maker" and the "Maker's Number" would indicate that the meter in question was in stock. The record of the meter after it leaves the shop is cared for by having all cards for the setting, changing and removing of meters, after the work is done, pass through the hands of the person responsible for the meter record file. The information on these various cards is posted on the proper meter record card, and in this way, knowing a meter number, it is always possible to tell at once its location. For instance, the question arises, "Where is meter No. 19,454?" Turning to the meter record card bearing that num-



SET					REMOVED	
DATE	INDEX	STREET		HOUSE NO.	DATE	INDEX

Meter Record Card, Back

SIZE	KIND	Co. No. 28028	MAKER	MAKER'S NO.
10	Dry		H. & Mc I.	325230

SET					REMOVED	
DATE	INDEX	STREET		HOUSE NO.	DATE	INDEX
7/11/98	0	E. Ailegheny	3 yr. test. F.	1854	12/12/01	29 3
Index changed during repair			24369		12/17/01	

Meter Record Card, Front.

Size 10	Co. No. 28028	Maker, H. & Mel.	
By Whom Repaired	Nature of Repair		Date
	Purchased.		APR. '98
X. Y. Co.	3 yr. test. Repairs & 2	New Diaphragms. 1 F Special Dia.	NOV. '02

Meter Repair Card. Front

ber, we see that the last entry shows the meter to have been set at 514 North Eleventh street on December 9, 1903. Again, inquiry is raised as to meter No, 4,241. The meter record card of that number shows that this meter was removed from 210 South Fourteenth street on May 15, 1903, and this is the last entry on the card. Therefore, this meter will be found either in the stock of meters ready to be sent out, or in the meter repair shop being repaired or awaiting repair.

Meter Repair Card

For recording the various repairs made to a meter during its life, a meter repair card, similar to the sample shown, may be used. These cards, like the meter record cards, are filed by company number. Where a company does its own repairing, as much detail may be thought advisable in describing the exact nature of repair may be recorded, the idea in such cases being to get as much information as possible, for use in the future, upon the behavior, for instance, of certain oils or certain leathers. Where the repairing is done by a meter company, the information on the nature of repair will probably be limited to the commercial terms for the various kinds of repair. The repair card furnishes a convenient means of determining the actual location of any meter not in use, a record not given by the meter record card, and which is necessary wherever the company is a large one, or where the meter work is done from more than one shop, or the meter repair shop i sin another portion of the city from the meter-fitting shops. In such cases, there are three columns ruled on the back of the meter repair card, and headed "Shipped by." "Date," and "Shipped to." All shipments of meters from the district fitting shops to the meter house (stock of meters awaiting repair), from the meter house to the repair shop, from the repair shop to the meter house (stock of repaired meters), and from the meter house to the district fitting shops, are listed on shipping slips and by posting from these slips to the proper meter repair card, the latter will always show the exact location of the meter. To illustrate the working of this record we will imagine that information is wanted about meter No. 28,028. The proper meter record card shows that it was removed from 1854 Allegheny avenue, December 17, 1901. Turning to the meter repair card, we trace, by record of shipment, the meter from the district fitting shop to the meter house and through the repair shop, the last entry showing that on November 5, 1902, it was put among the stock of repaired meters. As all meter stocks are piled by sizes, it would not be a very difficult task to find the meter itself, if it is wanted for any special purpose.

Where, in a large company, the meter repair work is done by a meter company, but for the sake of convenience the meters are all sent from the various fitting shops to one point, from which they are shipped to the meter company, the same shipment record on the back of the meter repair card would trace the meter in every step of its progress, just as it does under the conditions we have already cited.

The Condemned Meter

When a meter is condemned, this fact, with the date, is written on both the meter record and meter repair cards. It is considered advisable to keep all cards representing condemned meters in their proper places, in their respective files, rather than to break the continuity of number by filing the condemned meter cards by themselves. This statement will hold good until the time when, in any series of numbers, the proportion of condemned meters becomes very large as compared with those in use. In such a case, it will probably pay to put the condemned cards by themselves, rather than to have a file, a large proportion of which is composed of inactive cards.

On the sample of the meter record card shown will be noted the index of the meter as set or removed. The opportunity thus afforded of getting on one sheet a continuous record should be taken advantage of for a final check upon the correctness of the meter reading as returned by the men doing the meter work. Every company should have a system by means of which the reading of a meter, as set or removed, is checked several times before the meter card goes from the shop to the office. When, in addition to such checks, the man in charge of the record file is instructed to call attention to any discrepancies which seem indicated by the index record as

Shipped by	Shipped to	Shipped by	Shipped to
Meter H. APR. 15 '98 Frankford			
Frankford DEC. 18 '01 Meter H.			
Meter H. SEPT. 11 1902 Repair Shop			
Repair Shop NOV 5 1902 Meter H.			

Meter Repair Card. Back.

it comes to him, it will be found that there is little or no chance of any consumer being sent a bill based on errors in reading.

There is nothing inherent in the records kept on the meter record and meter repair cards to prevent these two cards from being combined in one. If such combinations were made, the division between the two sets of information might well be a horizontal one, and the card used be about 5 inches by 8 inches. In the case of very large companies, however, it would probably be found more advisable to have separate cards, because of the fact that posting to the two sets of records is done from separate sources, and in actual working it would be found that there would be interference between the clerks engaged in posting "record" information in front of the drawers in which were cards needed by another clerk for the posting of "repair" information.

The information thus described as being kept on the meter record card was formerly kept in a book, the "Meter Record Book," and some companies, fearing the loss of a meter card, still prefer the book form.

In addition to the records thus kept of each individual meter, it is important that a record be kept of each proving of a meter as brought in from use, so that, say, a yearly average may be obtained of all such provings, indicating the average amount of correctness of all meters brought in.

Filing and Reporting Meter Setting and Removal Orders

248. Describe a method of filing and reporting upon orders for setting and removing meters which makes it certain that all such orders are properly attended to and that the changes of meters in carrying them out are properly recorded. Include in your answer the system of checks necessary in order that the reading of all meters set and removed may be correctly made and recorded.

Ans. The system to be described will be applicable to a works of the largest size. Portions of the system may be shortened or altered without impairing its effectiveness.

The orders to set, change and remove meters are issued by the Commercial Department, that is, the department which keeps the ledgers, collects the bills, etc.

Reasons for Orders

The reasons for such orders are as follows:

1. Set card, when a consumer signs an application for gas.

2. Remove card, when a consumer ceases to use gas and it is the policy of the company to remove the meter, instead of merely shutting it off.

3. Change card, when the meter in use leaks, registers incorrectly, or is in any other way defective, or when a change in the type or size of the meter is desired. A large number of the change cards would therefore of necessity be originated by the Distribution Department, which attends to the complaints; but they should, in all cases, be issued by the Commercial Department, for reasons which will be explained.

It is absolutely essential that a completed meter card reach the Commercial Department in order that the index may be posted in the consumers' ledger.

Form 1

DISTRICT	REGISTER No.	METER ORDER No.	SET
THIRD		6871	THIRD DISTRICT JAN. 16 1903

LOCATION 1260 W. Market
NAME Chas. Smith
N. OF O. New Set

Ledger Name ——— Comp. Ledger Folio By

Co's No. 26781	Moved from N. Y.	Loc. Book No.	
Size 5		Loc. Book Page	
Index 264	Remarks Set on	Comp. Ledger Folio	
Set by J. Brown	Jan. 23	Comp. Ledger Line	
Date 1-23-03		Route Book	
		Loc. Book Failed	
		Addgh.	

To insure this, all the cards are issued by that department, and a check held against the order until its completion. To facilitate this, the cards are printed in duplicate as per forms shown.

The Set Card

Considering first the Set Card, Form 1, the Commercial Department, on receiving an application, folds the card at the middle line and inserts a carbon sheet between the original and duplicate. The name and address of the consumer is then written on, and the original and duplicate stamped with the same number, and the two torn apart. The duplicate is geographically, and the original sent to the Distribution Department.

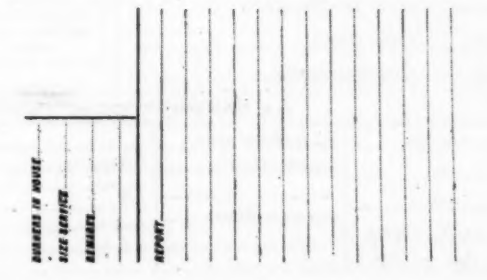
Form 1

DISTRICT	REGISTER No.	METER ORDER No.	SET
THIRD		6871	THIRD DISTRICT JAN. 16 1903

LOCATION 1260 W. Market
NAME Chas. Smith
N. OF O. New Set

DUPLICATE

Original and Duplicate will receive the same "Meter Order Number." Dispatcher will send Original to Shop. This Duplicate will be placed in geographical file of "Duplicate Orders Unattended To"; from which it will be removed when Original Order has been returned from Shop and entered in Meter Location Book. This Duplicate will then be placed in serial file, and after accounting to the Superintendent of Meters for orders issued, to be destroyed.



In order that the last-named department may keep track of the set card during the execution of the work, the information on it is entered on the History Card, Form 4, bearing the same address as the set card, this history card being one of a complete set of such cards (one for each house, i. e., each system of house piping for which a meter has ever been set) filed geographically. The entry would show that a set card had been issued, and was in process of completion for that particular house.

Use of Cards

The set card would be handed to a workman to complete, and theoretically both the card and the meter which he would draw from the stock to set, should be charged against him. It has been found in practice, however, that, with an efficient checking system with regard to the card, the charging of the card to the man may be omitted. The meters, however, are charged up by number, index and size on a sheet which is kept in the office. On setting the meter, the workman fills up the blank spaces indicated, gives the meter index and the company's number (the size having been determined and entered in the office), and signs his name, with date. On returning the cards to the shop, the cards and any unused meters returned must balance the meters on the sheet. Any discrepancies would be shown and checked at once.

To check the index of the meter that has been set, the set card is compared with the stock card carried in the district shops of the Distribution Department. This stock card is made out whenever a meter is received in the district shop, either from a consumer by removal, or from the meter repair shop in a consignment of new or repaired meters. It contains simply the company's number, size and index. To insure its accuracy it is checked in the following manner: The consignment of meters from the Meter Repair Shop to the district shop is accompanied by a shipping slip, containing the company's number, size and index. On receipt of the meters the stock card is made from each meter direct. These cards are then compared with the shipping slip, and, as can be readily seen, this double-checks the description of the meter. This stock record is purely a live file, that is, each card represents a meter in stock in the district shop.

Form 2

DISTRICT	NOTICE TO SHUT OFF	METER ORDER No.	REMOVE
THIRD		62598	THIRD DISTRICT SEPT. 26 1903

LOCATION 1260 W. Market
NAME Chas. Smith
CAUSE Consumer moved

Ledger Name ____ Comp. Ledger 9/26 Folio 21 By M. J.

Co's No. 103869	Key at House open	Stock No.
Size 5	Moved to N. Y.	Page
Index 859		Folio
Removed by J. Brown	Bond bill to Same	Line
Date Sept 28, '03	Gas on ___ Gas off ___	Route Book
		L. B. Fol.

Keeping Records

When a meter is set the particular card is lifted as described above, and it is perfectly safe to say that if the description on the set card tallies with the description on the stock card, the reading is correct.

In order that a daily record and balance of meters can be kept, each meter set or removed is entered in a Set and Remove Book, which shows the Company's number, size (each in its own column), house number and index. For a meter set, this entry could be made from the meter card, and the stock card compared with the entry. For a meter removed, when the meter is brought in, the stock card is made out from the meter and the entry of the meter in the Set and Remove Book made directly from the remove card. Comparing the stock card with this entry would then be a thorough check.

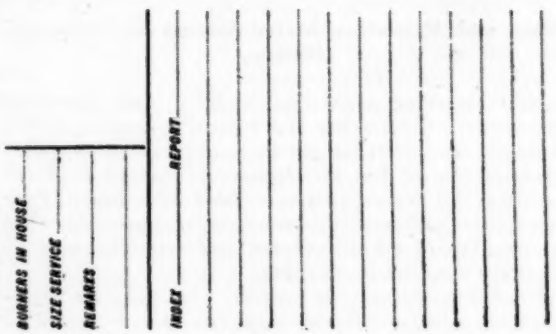
Form 2

DISTRICT	NOTICE TO SHUT OFF	METER ORDER No.	REMOVE
THIRD		62598	THIRD DISTRICT SEPT. 26 1903

LOCATION 1260 W. Market
NAME Chas. Smith
CAUSE Consumer moved

DUPLICATE

Original and Duplicate will receive the same "Meter Order Number." Dispatcher will send Original to Shop. This Duplicate will be placed in geographical file of "Duplicate Orders Unattended To"; from which it will be removed when Original Order has been returned from Shop and entered in Meter Location Book. This Duplicate will then be placed in serial file, and, after accounting to the Superintendent of Meters for orders issued, to be destroyed.



Having checked and recorded the index and description, the fact that the set has been completed is entered on the history card. Form 4 shows the the arrangement of the history card. The arrangement of the meter record at the top is self-explanatory. Under "history," the entry of the order number, date received, and "New Set," or "Change Water," or "Remove. Consumer Moved," to the point "A," would be made when the card is first received from the Distribution Department; the balance when the card is completed.

(Forty-seventh Installment Next Week)

Gas Company Securities

Why they are a safe investment

John Moody

I APPROACH this subject of utility securities, gas company securities, of course, entirely from the standpoint of the investor. The American investor is either a bank, an institution, a corporation, individual or a family, who puts his money to work for the purpose of getting an income return and under conditions which will insure the security and stability of his capital.

Now, of course, we know there are many fields for investment in these modern times and there are many types of investors. The average man in the street does not stop to realize that this nation in these times has really become a nation of investors. We often wonder who the people are who invest so many billions of dollars year after year in enterprises in this country. Well, for the most part, they are the business men of the country, the successful business men, the successful producers of wealth in any form whatever, and as time goes on the proportion of business men who are investors becomes larger and larger. Now, in the old days, it was a simple matter probably to invest money safely. There are a few limited types of investments that men could put their money in with a great degree of safety, but nowadays there are thousands of different types of securities which are available in the financial markets of the country for the investment of funds.

Money Lost Through Speculation

A large part of the great amount of money that is yearly invested in securities in the United States is generally lost because investors speculate when they think they are investing. Now, that is due mainly to ignorance on the part of the public. It is appalling to find how little people know about the things that they are induced to invest in from time to time, and I am not speaking of the class of people who want to speculate, who are willing to take a big chance and who want a little run for their money, and that sort of thing. There are hundreds of thousands of those also. But I am speaking of that great mass of people spread all over the United States who accumulate money from year to year who are able to add to reserves from time to time and who wish to set that money safely to work to give them an adequate return. Even in that class there are thousands who constantly lose their money, and they lose it mainly because they do not know the facts regarding the thing that is offered them for sale. They do not know the facts simply because they are not educated. They do not know how to analyze a security. They take things too much on faith. They believe all the big moonshine that is handed out to them from time to time. They do not know how to ascertain the facts.

Educating the Investing Public

Well, it has seemed to be in a study of this investment field for a long series of years that the most important thing for every producing enterprise, for every corporate enterprise, is to do something for the education of the investing public. Today there is more effort along this line than ever before, without any doubt, but at the same time there is not enough effort, and there is not, it seems to me, the right kind of effort. In these educators of public opinion, investment opinion, there is too much of the tendency to assume that they already know the essential things about an industry. The result is they furnish the public with a mass of technical information, technical details which are confusing, which are difficult to appraise, and which are not understood at all by the average man.

Essentials of Good Investment

What the man wants to know, or ought to know, who is investing his money, resolves itself down to two or three very simple things. He can understand these simple things, but he cannot understand the technicalities. The investor who really wishes to put his capital to work safely ought to, in the first place, be told, or be shown, that the thing in which he is going to invest has stability, before all else. This appeal to the public in connection with high interest rates, possible profits, rapid expansion, and that sort of thing, is really more of the speculative appeal. It is not the most essential thing. The most essential thing in any security investment is the stability, the question of stability, stability back of the issue itself, the stability of the industry, if it is an industry. And then the next question after that of the stability of the industry is the question as to whether it is merely a fad, whether it is a temporary development which may not stand the test of time or whether, on the other hand, it is something like an essential industry, something that is bound to remain with us, maintain its stability and continue in existence as far as we can see into the future. If it is not an essential industry, then the investment is liable to be decidedly speculative. If it is an essential industry, then it is something which the investor can count upon as being a business which is going to continue to function far into the future.

Permanence of Industry

Then, having ascertained the answer to this question of the essential character of the industry, the next important general thing for the investor to

give proper attention to is the question of its permanence as indicated by its past record. In other words, whether it is a seasoned industry or not. Now, there may be permanent industries which are not as yet seasoned. We might take, for example, the moving picture industry or the automobile industry—we all feel that the automobile has come to stay, without any question. We all feel that the moving picture has come to stay. At the same time, those industries have not been developed long enough for us to be entirely sure that they have come to stay. How do we know but what ten or twenty or twenty-five years hence something new will take the place of the moving picture for the entertainment of the masses? We don't know. Today the industry looks like a firmly and permanently established thing, but the man who is investing his money for over a period of twenty, thirty or fifty years, needs to be assured that twenty, thirty or fifty years from now his investment is still going to be good.

Now, those are the essential things that the public ought to know about an industry before investing. There are in this country a large number of industries which are essential public necessities, general necessities, have the characteristics of stability and permanence, and there are a large number of industries which haven't all of those characteristics.

And so we go all down the line of the various industrial undertakings which are essential to civilization and which undoubtedly have come to stay; yet they all respond in a very direct way to changes in business conditions. They respond to periods of depression, as well as periods of prosperity, in their earning power, their financial conditions, and in their general result.

The Gas Industry

But now we come to really essential industries, such as the gas industry. The gas industry, like the electric light and certain other utilities, is something which is absolutely essential and which, it seems to me, has demonstrated its stability as a profit-producing operation for a long series of years. It is the ideal in many ways for the man who wants to invest his money permanently. An industry which, through good times and bad, shows stability, is the ideal type of industry for the conservative investor to put his money into. And this certainly is true of the gas industry in this country. It demonstrates stability through hard times as well as good times. Corporations in this general type of business find in the period of depression such as we had in this country in 1920 and 1921, that there is practically the same demand for their product as in a period of great prosperity. Perhaps not quite so much, but still, for all practical purposes, about the same thing. They find also that, through periods of tight money, through periods of unsound finance and through periods of inflation such as we had in 1919, and during the war period, they find that these companies are in that type of business where the dangers of financial collapse are not near so great, simply because they do not tie up funds in enormous inventories. Further than this, they do not have the same problems in the labor field that confront industries, railroads and many other types of undertakings. So that there is a feature of stability there which is very outstanding and which is of the greatest importance to the man on the outside who is investing his capital.

Advertising the Industry

I said in the beginning of this talk that I thought enough publicity of the right kind had not been given to the investing public regarding certain essential industries. And I think from my experience that this is one of the features in the gas industry of this country which might be given more thought. Looking at it entirely from the standpoint of the consumers of securities, of the great investing public, it has seemed to me for a long time past that the great public had not been educated as they should be in connection with what has been going on during the past decade in the development of the gas industry in this country. You know most all of us are very much alike, and although we try to use intelligence and use our reason, yet we act largely on impulse, on prejudice, on hearsay, and as the result of custom, and any of you people would be surprised if you mixed around among the bankers and the big investors of this country—I speak not of the little man, but of the big man—and heard some of the opinions that are expressed when you suggest that they invest money in certain gas securities. You would be simply amazed at the ignorance.

It is still prevalent among a large number of otherwise intelligent people who think that because they don't see gas light in the streets and don't see houses or offices lighted by gas any more that the gas industry has no future. Of course, a great convention like this will show a limited number of people just what is going on in the gas business. Reports, articles of all kinds published in technical journals, very exhaustive and elaborate exhibits of what is going on, will reach a limited class of people, but only a limited class of people. What I want to impress on you more than anything else is the fact that the great investing class, 90 per cent, we will say, of the investing class, are the type of people whom you never can reach through exhibitions, through the publication of technical articles in technical journals, and through sending out very interesting, but very dry details, to the general public. They don't pay any attention to it. They don't understand it; they inspect it and say it is great, and then they usually throw it in the waste-basket because it is too hard to read.

Reaching the Masses

The kind of publicity which the gas industry in this country ought to develop, it seems to me, and

this is really the keynote of my thought in this talk this morning—the kind of publicity that ought to be developed is the kind of publicity that will reach down to the masses of the people in a way which they can understand. The fact ought to be brought out that the gas industry is an essential industry, to start with, is something that does not suffer in periods of depression, of panic or reaction, like the copper industry or the oil industry or the steel or a large number of other industries. It is the kind of industry that is not affected vitally by the so-called business cycle, which is simply a term defining the recurrence of prosperity and depression which we have in this country. It is not vitally affected by changes of that kind. That is the kind of thought that ought to be brought out and blazoned all over the country; that here is one of the few absolutely essential industries, one performing a service which the country could not under its present condition of living get along without; that we couldn't have our modern civilization without this industry being developed and performing its business.

The Development of the Industry

And then, on top of that, it is necessary, through statistics and records, to prove in all ways how this industry has evolved and developed. It is necessary to show that, whereas twenty, thirty, forty years ago, the gas business in different towns and cities was simply a little local lighting affair, with perhaps a few securities outstanding, often represented by a little company owned by a little local capital and sometimes not giving good service or being well managed—it is necessary to point out clearly to the common mind, the ordinary mind, how this industry has necessarily developed in management and in finance throughout the country over this long period of time, until now it stands out as one of the great outstanding services of the country.

Those are the things that ought to be pointed out, and when that is done, as it is done in some other types of industry today in this country, it seems to me that investment capital will awaken more clearly to the fact that here is an industry of great size and still with a great future.

Necessary to Be Simple

You know it is necessary to be simple and to appeal to the great mass in these days, simply because that is where the capital of the country comes from. We don't get our capital for carrying on enterprises from a few millionaires, from a few rich men, from a few banks in Wall Street. I know that there are those in political life today who say that all the capital comes from Wall Street and all the control of industry of this country is lodged with a little group in Wall Street. But we know that that is not so.

And so it is that when we look into the future now for the further expansion or development of any type of business, any type of essential industry; gas, electric light, any utility or utility enterprise, the capital has to be supplied more and more through a simple, legitimate and intelligent appeal to the capitalists of the country, who are the population of the country.

Lots of the utility companies are doing it today, as we all know. Look at the consumer ownership movement which has gone on in certain spots in this country. Look at the employee ownership movements which have gone on throughout the country. There has been great progress made in that direction, of course, but it does seem to me that the important thing for the gas industry, as well as all the utility industries in this nation today, to emphasize in their publicity, advertising, and in every other way possible, is the simple, essential facts which are at the basis of all sound investment in corporation securities, and that is that this industry has as an outstanding characteristic great stability. It is not affected by ordinary dangers. It has permanence; it has a past record. It is so essential in its characteristics that the nation could not go on under present conditions and progress still further without the sort of service which it is performing.

TOWN GOES HUNGRY AS GAS SERVICE FAILS

"We are all out of gas today!"

What would happen if gas service were shut off for twenty-four hours is something which most people can only guess at. However, this experience was the misfortune recently of the town of Miami, Oklahoma, caused by the breaking of a 16-inch main supplying natural gas. These are a few of the things that resulted:

Homes and restaurants awoke to find there was no gas. A large part of Miami ate cold breakfasts or none at all. Backyard fires, electric irons, "canned heat," children's toy stoves and many other improvised methods of cooking were brought into play.

Many people drove to the nearest city to get a square meal. Only two restaurants were able to operate. One did business by means of a gasoline stove and the other employed a bonfire in the alley.

Soda fountains and candy kitchens, trading in sandwiches and other eatables, were sold out before night came.

Homes having an oil or gasoline stove, or even an electric toaster or grill, invited the neighbors in and formed community kitchens. Backyard and alley fires were the centers of social gatherings, with the object of nourishment playing the principal number on the program.

Men, many of them, were forced to go without their usual morning shave, refusing to use a cold lather.

Church attendance fell off about 50 per cent, the men staying home to "keep the home fires burning."

The break also affected half a dozen other communities.

THE BASIS OF COMPENSATION FOR INDUSTRIAL GAS ENGINEERS

(Continued from page 1197)

ing is beyond the scope of this paper, but let it be said in passing that these two problems are looming up before us as problems of major importance and are worthy of our earnest consideration.

Saving selected our men and given them adequate training, how are we to bring out the best in them? Again, this problem presents many parts and it is only my intention to discuss one phase of this problem, namely, the proper basis of compensation.

The Proper Basis of Compensation

The determining of the proper basis plays an important role in increasing personal efficiency. I believe that if we expect a man to give his best he must be given an incentive and it is my firm belief that any red-blooded man will respond to one that is designed properly. The proper rewarding of men for service rendered, touching as it does so closely to human ambitions, hopes and fears, is today recognized as the most difficult of our industrial problems, but it is fraught with tremendous possibilities. The incentive may take on various forms, but this paper will deal with only one form—a monetary incentive.

To find an equitable basis for the compensation of the industrial gas engineer and incorporate it in a workable plan is no easy task, and almost any plan that may be advanced has certain disadvantages as well as advantages.

The Function of the Industrial Gas Engineer

I believe we are all agreed that in the last analysis the function of the industrial gas engineer is to sell gas. The sale of the appliance is secondary and a means to an end. It is common practice to compensate domestic salesmen on the basis of appliance sales, and this practice is sometimes stretched to include the industrial gas engineer on the ground that there is a relation between merchandise and gas sales, but I believe that such a relation does not exist. It is very often the case that a low-priced burner, for example, will burn many times more gas than a high-priced piece of equipment. Pushing appliance sales is not synonymous to pushing gas sales.

Furthermore—and I believe this is an important point—due to the fact that it is the policy of many gas companies not to sell expensive special equipment, basing the incentive on appliance sales works a hardship on the industrial gas engineer. Under this plan he would earn most by selling high-priced equipment, and to forbid him to sell his best source of revenue has the effect of dampening his enthusiasm. In view of these facts, making appliance sales the sole basis of the incentive is absolutely wrong. It may be that a satisfactory plan can be worked out, taking into account both gas sales and appliance sales, but for any company whose policy it is not to sell high-priced special equipment, any such plan still retains the disadvantage just brought out, even though it be in a lesser degree.

Gas Sales Should Be Incentive

It would seem obvious that the incentive should be based on gas sales and any commissions offered should be a function of the amount of gas sold. It may be objected at this point that the industrial gas engineer has many duties other than the direct sale of gas. He is called upon to make layouts, conduct tests, offer suggestions for the correcting of faulty installations, to settle high bill complaints, etc. It is just as important to keep the customer sold as to sell him, and it is just as much the job of the industrial gas engineer. However, I believe it is true that in the last analysis the industrial gas engineer is judged largely by his sales.

Compensation for Other Than Sales Work

Nevertheless, he should be compensated for the work other than sales work that he does and I believe any compensation plan for industrial men, who are called upon to do considerable work outside of actual selling, should include paying a certain fixed and guaranteed salary. Any commissions paid should be over and above this figure. Moreover, paying such a salary enables the supervisor of these men to have more control of their activities. He may put his men into undeveloped territories which require considerable missionary work; he may insist upon periodic calling on all industrial customers instead of allowing them to work the territory merely superficially, only going after the easy-to-get business, and leaving the hard-to-get and sometimes more desirable business go unsolicited; and he may direct their movements and actions generally along lines which he could not do were they on a straight commission basis. This control by the supervisor is essential if the best results are to be obtained.

But if we agree that the basis of his incentive should be the sale of gas, is it possible to formulate an adequate compensation plan?

Three methods of featuring the sale of gas alone present themselves.

Estimating the Sale of Gas

First, to estimate the amount of gas sold. This is sometimes impossible to do, even approximately, due to the fact that the customer has no definite idea as to just how steady the appliance will be in operation. It is at best a guess which may be far from the true consumption and the estimates are liable to be the subject of much wrangling and difference of opinion, which would have their bad effects on the men. The average amount of gas which a certain appliance will consume, as determined by actual readings, may be used as this estimate. But this may or may not approximate the true consumption. If, for example, an oven furnace is sold, it may be used once a month or ten hours per day, thirty days per month. The consumption of any particular kind of

appliance varies over wide limits and while the law of averages will compensate for these variations, yet I do not think that such a system has any substantial advantage over a plan using the hourly rated consumption of the appliance as a basis and the latter basis has the advantage of being easier of determination. Furthermore, it very often happens that special equipment is installed for which no average consumption figures are available.

Sales of Gas From Increased Consumption

Another method consists in determining the amount of gas sold by noting the increase in consumption in the plant where the installation has been made over a certain period of time. But the monthly gas consumption of any particular plant is largely a function of the amount of business they are doing, and is, in most cases, really not at all a true measure of the industrial gas engineer's activities. With good times the gas consumption in a plant will be high and when they have but few orders to be filled their consumption will be correspondingly low. Under this method the industrial gas engineer's compensation would rise and fall with periods of prosperity and depression. Obviously, he has no control over these situations and it does not seem logical that he should be either rewarded or penalized by such conditions. It has a further objection in that he would not receive his compensation until some time after he made the sale, whereas the incentive, to be effective, should be given at or near the time the sale is made.

The Connected Load Basis Plan

A third method is to compensate on the connected load basis, by which term I mean the maximum hourly rating of the equipment put on the line. At the outset you will say that such a basis is not compensating in proportion to the amount of gas sold. Under this plan a man putting on the line an appliance with a maximum hourly consumption of 1,000 cu. ft., which will be used one hour per day, gets the same commission as one who puts on the line an appliance of the same rated maximum hourly consumption which will be used ten hours per day. It must be conceded that this is a valid objection to this plan. However, it must be borne in mind that it is just as difficult, if, indeed, not more so, to put on the line equipment which will only be used one hour per day as to put on the line the same equipment which will be used ten hours per day. With this in mind, I believe the law of averages will take care of this objection.

Study of the Three Plans

In considering these plans or variations of them, we must always have uppermost in our minds that to be effective any plan must be simple and the incentive should be given at or near the time when the sale was made. These are cardinal principles. There is always the danger of having the plan so complicated that the man does not know just where he stands, and such a plan always leads to disputes, which have as their results the dampening of his enthusiasm. The plan must be absolutely fair and impartial and the basis must be something tangible rather than dependent on the judgment of the superior. It must, above all, tend to satisfy the industrial gas engineer, so that he will be ever eager and full of enthusiasm. Nothing will mar his efficiency more than dissatisfaction. He is a salesman and is dealing with psychological and intangible values and to dull his edge even ever so little will affect his results materially.

All of the plans discussed have their disadvantages. I believe that the objections to either basing the compensation on estimated consumption or on the actual increase in gas consumption in a given territory over a period of time, are serious enough to eliminate them from serious consideration unless these plans are qualified in one or more ways. With these qualifications come complications which are to be avoided if the plan is to be successful.

Third Plan Seems to Be Best

The third plan—that of basing the compensation on the connected load basis—seems to be the best. It is simple, the incentive can be paid at or near the time of the sale, and it puts the emphasis where it belongs—on the sale of gas.

After having decided upon what you are going to base your compensation, there are many other items yet to be considered. If the connected load is used as the basis, we are confronted with such problems as what guaranteed salary to pay, how much to pay in commission per cu. ft. hour of connected load, systems for checking the reports of the men, etc. These must all be worked out carefully.

One cannot study this whole problem without soon coming to the conclusion that it is a somewhat complicated one and that it is very difficult to draw up a simple plan which has no objections or disadvantages. Nevertheless, it is my strong conviction that the advantages to be gained by offering a monetary incentive along such lines far overbalance these objections and disadvantages.

In conclusion, let me reiterate that I believe that we should all give this compensation problem our serious consideration. The mental attitude of the industrial gas engineer is all important and with this is deeply involved the plan of compensation we offer him.

CUSTOMER OWNERSHIP PRAISED

The spread of the customer ownership idea, according to George T. Hughes, investment expert of the New York Evening World, is one of the most encouraging developments of the times in the investment business.

"The customer owner," he says, "has been able to obtain a sound security with reasonable return and with the progress of which he is able to keep in close touch. The amount of money which can be raised this way is far beyond the estimates made by those who first suggested the plan.

"It has also resulted in keeping for the community the capital which might otherwise have been dissipated in buying fraudulent promotion stocks. It has met the criticism that opportunities for safe investment of small sums have been lacking because it was too expensive for investment bankers to cater to the investor who had only one or a few hundreds of dollars of spare capital."

Getting Business and Holding It

J. B. Dillon

THE Public Service Co. of Colorado, using a three-column width and one foot length in the newspapers, shows Milady in the bath room getting some hot water, a 22-gallon heater alongside, just out of the bath room, and then the undercaption:

"Every Home Can Afford the Comfort of Hot Water Every Minute!

We are told that the sale price is $99, a big reduction; that $2 down and easy monthly payments place it in the home.

To the left of the advertisement is the following card:

MUTUAL CONFIDENCE

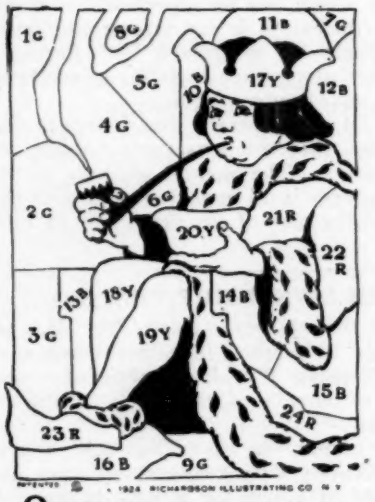
To render a community gas or electric service is both an obligation and an opportunity. Believing this, we maintain that no customer is properly served unless there exists that fine and intimate relationship inspired by mutual confidence.

We want our customers to call upon us at any time for advice, suggestion or counsel in matters regarding our service. No problem is too large for our organization to handle and no detail too small to receive our most careful attention.

We welcome every opportunity to extend our usefulness. If you are having any trouble with your gas or electric service, we should appreciate your reporting the matter to us at once.

Now, then, here is how one of the fastest growing concerns in the country goes after business. Perhaps you may find something worth while in the methods used, or you may be able to improve upon it.

The fact remains that the Public Service Company of Colorado keeps eternally after the business, and gets it.



Old King Kole was a merry old soul
A merry old soul was he,
His throne was lit with a glassware bowl
So everyone could see.
Inside the bowl three *mantles* bright
Beamed on the Monarch wise,
And saved his sight, for good *Gas Light*
Is easy on the eyes.

DIRECTIONS Read carefully and you can make a wonderful poster

To dress up our little picture in colors, cut out the shapes on the next page, paste them on the picture colored side up, put them on in the order numbered, cut just outside the lines.

When you've made your colored picture paste the page into a book—as there are some more coming.

Lighting.

Gas Lighting is the most economical way to obtain illumination of beautiful quality.

Gas light most nearly approaches daylight in quality and gives a light which is restful to the eyes.

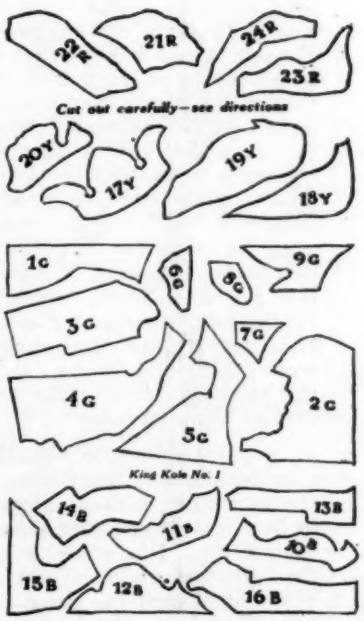
Modern gas light fixtures are supplied in the latest period designs. There are bracket lights for side walls, domes and semi-indirect lights for ceilings and beautiful floor and table lamps for portable use.

We desire our customers to enjoy the best Gas Service possible, which can only be realized when the right gas appliance is used in the right place. Let us help you to select the right one.

Our complete supply of gas appliances and our years of experience logically make us gas appliance headquarters.

If it's done with HEAT
You can do it BETTER with GAS.

If there are no KIDDIES in your family—give this to your Friend's Children.



Selling the Gas Idea to the Children

Current Market Prices

COALS (By Courtesy of Coal Age)

A. Bituminous.

(Spot prices, F. O. B., mines, net tons).

High Volatile, Eastern	Market	Price
Pool 54-64 (Gas Standard)	New York	$1.40 to $1.60
Pittsburgh screened gas	Pittsburgh	2.30 to 2.50
Pittsburgh gas, mine run	Pittsburgh	2.00 to 2.25
Kanawha lump	Columbus	2.35 to 2.75
Kanawha mine run	Columbus	1.40 to 1.75
West Virginia lump	Cincinnati	2.35 to 3.00
W. Virginia gas mine run	Cincinnati	1.40 to 1.50
Midwest		
Indiana 4th vein lump	Chicago	3.00 to 3.25
Indiana 4th vein mine run	Chicago	2.25 to 2.50
South and Southwest		
Big Seam lump	Birmingham	2.75 to 3.50
Big Seam mine run	Birmingham	1.50 to 1.90
Southeast Kentucky lump	Louisville	3.00 to 3.50
Southeast Kentucky mine run	Louisville	1.50 to 1.75

B. Anthracite.

(Spot prices F. O. B. mines, gross tons),

	Market	Freight rates	Independent	Company
Egg	New York	$2.34	$8.50 to $8.75	$8.75 to $9.25
Egg	Philadelphia	2.39	9.45 to 9.75	8.80 to 9.25
Egg	Chicago (net tons)	5.06	8.17 to 8.25	8.14 to 8.20

COKE (By Courtesy of Iron Trade Review).

Connellsville, furnace	$3.00 to $3.25
Wise County, furnace	3.75 to 4.00
Alabama, furnace	4.50 to 5.00
Foundry, Newark, N. J., del	10.41
Foundry, Chicago, ovens	10.75
Foundry, Boston, delivered	11.50
Foundry, St. Louis	11.00
Foundry, Granite City, Ill	9.00
Foundry, Alabama	4.50 to 5.00

PETROLEUM (By Courtesy of Oil, Paint & Drug Reporter)

(Prices at wells, per bbl.)

Pennsylvania—Ohio—West Virginia.	
Cabell, West Virginia	1.45
Corning, Ohio	1.50
Lima	1.58
Pennsylvania	$2.75 to 2.85
Wooster, Ohio	1.40
Indiana—Illinois.	
Illinois	1.37
Indiana	1.38
Oklahoma—Kansas.	
Healdton	.90
Mid-continent (low gravity)	.75 to .90
Gulf Coast.	
Gulf Coast, Grade A	$1.50
Gulf Coast, Grade B	1.25

GAS OILS.

Gas Oil, Bayonne, bulk gal	5 to 5¼c
Gas Oil (32-36) Oklahoma, gal.	2¾ to 3 c
Gas Oil (32-36) Gulf Coast, gal	3¾ to 4 c

PIPE AND FITTINGS—CAST IRON GAS PIPE.

(By Courtesy Iron Trade Review.)

Four-inch, Chicago	$59.20 to $60.20
Six-inch and over, Chicago	55.20 to 56.20
Four-inch, Birmingham	51.00 to 52.00
Six-inch and over, Birmingham	47.00 to 48.00
Four-inch, New York	69.60 to 70.60
Six-inch and over, New York	64.60 to 65.60
Standard fittings, Birmingham, base	115.00

6 to 24-inch, base; over 24-inch, plus $20; 4-inch, plus $20; 3-inch, plus $20.

BY-PRODUCTS

(By Courtesy of Oil, Paint and Drug

Ammonia aqua, 16 deg. drums lb	5 to 5¼c
Ammonia aqua, 20 deg. drums lb	6¼ to 6½c
Ammonia aqua, 26 deg. drums lb	6½ to 7 c
Ammonia squa, anhydrous cylinder, lb	30 to 36 c
Ammonium sulphate, bulk F. O. B. Works, per 100 lbs	$2.70 to $2.80
Potash prussiate, yellow casks, lb	16½ to 16¾c
Potash prussiate, red casks, lb	37 to 38 c
Soda prussiate, yellow casks,	9¼ to 9¾c
Soda sulphocyanide, barrels, lb	45 to 55 c

COAL TAR BASIC PRODUCTS.

(By Courtesy of Oil, Paint and Drug Reporter)

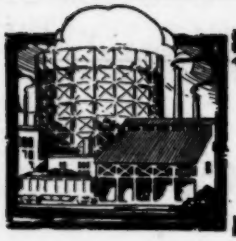
Benzol C. P. tanks, works, gal.	24 to 25c
Benzol, drums, gal	30c
Benzol, 90% tanks, works, gal.	23c
Benzol, 90% drums, gal	28c
Napthalene, flake, barrels, lb	5½ to 6 c
Napthalene, dyestuff bags, lb	5 to 5½c
Solvent Naphtha, water white works, gal.	24 to 25c
Solvent Naphtha, drums, works, gal	29 to 30c
Toluene, C. P. tanks, works, gal.	31c
Toluene C. P. drums, works, gal	36c

Coal

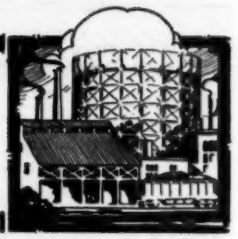
Holidays again caused a decline in the production of bituminous coal during the week ended November 8, when, according to the Geological Survey, 9,332,000 net tons was produced, compared with 10,065,000 tons in the preceding week, as shown by revised figures. Anthracite output, on the other hand, increased slightly during the week ended November 8, 1,592,000 net tons having been produced, a gain of 148,000 tons over the preceding week, when the observance of Mitchell day cut heavily into production.

Gas Oil

Gas oil was a shade easier, refiners quoting 5c per gallon, bulk, f. o. b. Bayonne. The call for Diesel and gas oils was of routine volume.



NEWS OF THE GAS INDUSTRY



Large Gas Plant Being Built at Troy

A coke oven plant is being built for the Hudson Valley Coke & Products Corporation, at Troy, N. Y., which will supply gas to the cities of Albany, Schenectady, Cohoes and Troy.

This coke oven plant, with American ovens, is being built by the Foundation Oven Corporation, and the plant will be very flexible, as two 12-foot sets are being installed, one of which can make carburetted water gas, whereas both of them may make blue water gas.

The blue water gas may be mixed with the coke oven gas; or used for heating the ovens instead of using the oven gas for this purpose; or a mixture of blue and coke oven gas may be used for heating the ovens.

The contract for installing the two 12-foot sets, each complete with waste heat boilers, automatic controls, cooling apparatus, as well as tar extractor and appurtenances, has been placed with the Gas Machinery Co., of Cleveland, Ohio.

The gas is to be distributed to the Municipal Gas Company of Albany, the Cohoes Light and Power Company, the Adirondack Power and Light Corporation of Schenectady and the Troy Gas Company. The series of 12-inch high pressure gas mains is within 48 hours of completion. The complete plant, which is being erected on the site of the old Burden Iron Company plant in South Troy, will, when completed, be one of the largest gas-producing plants in the world, it is said. Permission was some time ago granted by the Public Service Commission to various gas corporations wishing to purchase gas from the Hudson Valley Coke Products Company to construct connecting mains; the Cohoes company has laid six-inch mains, while the Albany and Schenectady concerns have laid mains of the 12-inch type.

Gas sales for the fiscal year of 1923 by the Municipal Gas Company of Albany were 1,057,627,800 cubic feet; by the Cohoes Power and Light Corporation, 77,768,000 cubic feet; by the Adirondack Power and Light Corporation, 777,417,800 cubic feet; by the Troy Gas Company, 481,598,000 cubic feet. This totals more than 2,257,000,000 cubic feet.

Byllesby Organization Moves to New Illinois Merchants Bank Building

The general offices of the Byllesby organization are now located on the eleventh floor of the Illinois Merchants Bank building, 231 South LaSalle street.

The move was prompted by the pressing need for larger and better accommodations for customers and the large staff of financial, engineering, accounting and utility operating specialists of the organization.

The new home is a model of efficiency, and everything is standardized and arranged for maximum convenience and require minimum time and effort.

Gas Co. Increases Capital

Albany, N. Y.—Associated Gas and Electric Company, Ithaca, through J. J. Taaffs, attorney, Albany, N. Y., has filed a certificate in the office of the Secretary of State increasing its capital stock from 310,000 shares non par value to 350,000 shares non par value.

Frederick H. Shelton Passes Away

Frederick H. Shelton died on November 14.

With the passing of "Fred" Shelton, one more of the high lights of the gas industry disappears from the scene. The younger generation of gas men may not know Mr. Shelton except by reputation, but the older men knew him well and affectionately as a leader in the industry.

None of the various gas associations were without contributions from his facile pen, for he knew his subject well and had the gift of free expression.

Mr. Shelton for many years was associated with the United Gas Improvement Company in different capacities. The last office held by him was that of sales agent and the close association between himself and D. J. Collins, who succeeded him in that office, will be remembered by the active gas men of his day.

In association with Mr. Collins and J. D. Shattuck, Mr. Shelton controlled and operated the Philadelphia-Suburban Gas & Electric Company and other utilities, and built the properties up to the high position they hold today.

After disposing of a number of his holdings and retiring from his activities in the gas industry, Mr. Shelton turned his attention and his active enthusiasm to benevolent and artistic projects. The Little Theater, in Philadelphia, is a child of his vision and will continue to bring forth memories of his pleasing personality.

Mr. Shelton is survived by his widow and daughter, Helen, who became the wife of Wayne S. Vetterlein.

Booklet on Purification

E. J. Lavino & Co. have just issued a booklet entitled "The Purification Question," which relates to the gas purifying products marketed by this company.

Copies may be obtained by interested parties from the Oxide Department of this company, Bullitt building, Philadelphia.

Closer Relations Between Gas Associations—President Hall Takes Initiative in Proposing Plan for This Purpose

It is a matter of great importance to the Pacific Coast Gas Industry that it have available to it the record and results of the tremendous amount of individual and co-operative effort being exerted to benefit the industry by various organizations in all parts of the country. Many of us today are struggling with problems which have been met and solved by others somewhere, and records left some place. The co-ordination of this information is one of the major functions of associational activity and it is not being performed as thoroughly as it might be.

The Pacific Coast Gas Association is fulfilling this function in an admirable way as applied to our own membership, but the results of our work come to the attention of but few outsiders. There are a dozen similar associations doing valuable work along similar lines, the record of which does not ordinarily come to our attention. While all of this work is of great value to the companies and individuals taking an active part in its preparation, and much of it is put into practice by the members of the particular association sponsoring it, there is much duplication of effort which might be eliminated if the several associations were to conduct their studies in closer harmony or possibly under the co-ordination of a central authority. The lack of co-ordination makes it necessary for each association to start at the beginning of each problem, and results not only in spreading the committee work over a wide range of subjects, thereby losing efficiency by reason of too great a diversity factor, but tends to increase the expense of associational activities.

President Hall has taken the initiative in an effort to correct this condition and has appointed a committee to study the problem. During the progress of the recent convention of the American Gas Association a conference was held, with members of this committee and officers of the American Gas Association in attendance. At this conference the problem was stated and discussed from many angles, and it is believed by the committee that a satisfactory solution can be announced shortly after the meeting of the American Gas Association Advisory Council, to be held on the Pacific Coast early in February.

Watch Your Gas Service for Cold Weather Trouble

With the advent of cold weather gas companies are preparing to protect their customers against the slow flow of gas and low pressure in the pipes that lie underneath the ground. People who experience trouble with their gas appliances are requested to inform their gas company immediately so that pipes affected by the change in temperature may be cleaned out.

Gas engineers say that the cold causes the naphthalene in the gas to crystallize and form deposits inside the gas pipes. These deposits decrease the inside size of the pipe, slow up the gas flow and sometimes close pipes entirely.

When gas companies know where such pipes are closed up they force a solvent oil through the pipes. This oil dissolves the crystals and restores the flow and pressure is restored to normal.

Gas Co. Sees Greater Fort Wayne

Fort Wayne, Ind.—That men of sound business judgment are convinced of the rapid and continued expansion of the city of Fort Wayne is shown by the fact that the Northern Indiana Gas and Electric Company is spending at the present time nearly $3,000,000 for the purpose of being able to meet the demands of the future.

The monster gas holder which is partially completed will have a capacity of two million cubic feet of gas. There is in its construction 1,200 tons of steel. Its diameter is about 144 feet. Its height is 165 feet.

The gas-making plant will consist of 19 coke ovens and two water gas machines. The coke ovens will be completed with all the auxiliaries necessary to recover the by-products from the coal. About 60,000 tons of coke will be produced per year, part of which will be used in the water gas machines for making gas and the balance will be available for metallurgical and domestic purposes.

The plant will be capable of producing 7,000,000 feet of gas per day, which is considerably in excess of the present requirements and is so planned as to permit of extension as the city grows.

Samuel E. Mulholland, vice-president of the Northern Indiana Gas and Electric Company, also addressing the Quest Club, spoke of the readiness with which the heads of the corporation recognized the need of spending an amount as large as $3,000,000 in Fort Wayne, because the city is recognized as one which will enjoy a fast and substantial growth. Mr. Mulholland revealed the fact that vast quantities of gas are being consumed in the industries of Fort Wayne, and that this market for the company's product is growing rapidly. An interesting statement in this connection is the fact that because of the demands of several of the local manufacturing plants, especially the Dudlo Manufacturing Company, which is the company's largest customer, the erection of the present plant is being undertaken probably three years previous to the time of the natural demand.

Bassett and Gaillard on Gas Co. Directory

New Haven, Conn.—George D. Bassett, of the J. E. Bassett Co., president of the Chamber of Commerce, and G. Y. Gaillard, president of the New Haven Water Co., were elected directors of the New Haven Gas Light Co., at the regular monthly meeting of the board of directors. Mr. Bassett takes the place made vacant by the death of A. Heaton Robertson and Mr. Gaillard takes that of the late Eli Whitney.

Southwestern Public Service Association Announces 1925 Convention

The 1925 convention of the Southwestern Public Service Association will be held in Houston, Texas, May 19-22.

May Acquire the Boulder Gas Service

The city of Boulder, Colorado, is served with gas by the Federal Gas Company. There are 2,400 customers and 27 miles of gas mains. It is understood that the Public Service Company of Colorado has an option on the plant.

According to a recent inventory, the Federal's properties are worth $375,000. It was organized in 1901. Harry B. McClure is the president. The option expires January 1, but before that time, the understanding is, the Public Service Company will have paid the price and taken it over.

Contracts Awarded

The Kingston Gas & Electric Company, of Kingston, N. Y., has awarded contract to the Gas Machinery Co. of Cleveland, Ohio, for a 7 ft. 6 in. carburetted water gas apparatus.

This will be installed in their present water gas room alongside of the old water gas set.

The new equipment will be complete with steam and air meters, gauge board and piping, water-cooled oil spray, oil meter, and is arranged for overhead operating floor.

Winchester Gas Co. in New Organization

It has been announced that the Winchester Gas and Electric Light Company of Winchester, Va., has been succeeded by the Winchester Gas Company.

The company has been granted a new charter, broadening its powers and functions. It has dropped "Electric Light" from its name because it has not for many years been engaged in that industry. The franchise, good will and all other assets of the W. G. & E. L. Co. are absorbed by the Winchester Gas Company and all its contracts and other obligations are assumed. The company remains under the management of the same officers and directors.

The Winchester Gas Company has an authorized capital stock of $100,000 common, and an authorized issue of $200,000 of 6 per cent 20-year gold bonds, none of which has yet been issued. This authorized capitalization in no way affects the W. G. & E. L. Company's balance sheet, since the latter company has carried as a liability for 31 months the total amount ($61,530) subscribed to the common stock issue. The authorized bond issue has not been placed, but the proceeds of their sale will be expended only for additions and betterments to the company's property and to the retirement of the bonded and floating debt of the old W. G. & E. L. Co.

Gas Companies Increase Capital Stock

Albany, N. Y.—Associated Gas and Electric Company, Ithaca, N. Y., has filed a certificate in the office of the corporation bureau of the Secretary of State at Albany, increasing its capital stock from 260,000 shares non par value to 310,000 shares non par value.

Chuctanunda Gas Light Company, Amsterdam, N. Y., through Conover, Myers & Searle, attorneys, has filed a certificate in the office of the Secretary of State changing its capital stock from 16,000 shares $25 par value to 16,000 shares non par value.

Augusta Gas Co. to Extend Mains

Augusta, Ga.—The engineering force of the Gas Light Company of Augusta, after a complete survey of the town of North Augusta, have practically decided to alter the original plans and extend their mains to include the entire hill section. Mayor Ogden has assured the gas light company that the comparatively small amount of money needed to make additional developments can easily be raised, and that will mean everybody in North Augusta will be able to have gas almost immediately, provided, of course, the quota is reached by Saturday night.

Judging from the success the ladies' committee has met with to date, the financing will be readily accomplished.

New Oreland Gas Plant

Norristown, Pa.—The Philadelphia Suburban Gas and Electric Company has completed and put into operation a new gas plant at Oreland. This plant represents an expenditure of approximately $500,000. It has a present capacity of 2,000,000 cubic feet per day with provisions to extend this to 8,000,000 cubic feet per day. In addition to the above, the company has just completed and put into operation a new 500,000-cubic foot gas holder in Pottstown. This replaces a 75,000-cubic foot holder.

Organization Changes in Midland Utilities Company

B. P. Shearon has resigned as comptroller of the Northern Indiana Gas and Electric Company to become assistant treasurer of the Midland Utilities Company, with headquarters in Chicago. Mr. Shearon will be succeeded by P. A. Erlach, who has been connected with the Central Illinois Public Service Company for the last twelve years.

Mr. Shearon has been in the public utility business since 1907, starting as an employee of the Lafayette Gas Company in Lafayette, Indiana. This company later became a part of the Indiana Lighting Company, which in 1916 was merged with the Northern Indiana Gas and Electric Company. When the general offices of that company were established in Hammond, he moved there as assistant treasurer. He became comptroller of the company in charge of accounts in 1918. As assistant treasurer of the Midland Utilities Company, of which Samuel Insull is president, Mr. Shearon will make his headquarters in the office of the company in the Peoples Gas building.

Mr. Erlach has been connected with the Central Illinois Public Service Company since 1912. Since May 1, 1919, he has been secretary in charge of accounting and tax and general financial matters. Prior to that time he served for several years as general auditor of the company.